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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,714	07/22/2003	Kyoung-Ho Kang	P56901	4934
7590	07/27/2004			
Robert E. Bushnell Suite 300 1522 K Street, N.W. Washington, DC 20005			EXAMINER TRAN, THUY V	
			ART UNIT 2821	PAPER NUMBER

DATE MAILED: 07/27/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/623,714

Applicant(s)

KANG ET AL.

CA

Examiner

Thuy V. Tran

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 22 July 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10, 12, 15 and 17-20 is/are rejected.
- 7) ☒ Claim(s) 11, 13, 14 and 16 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some \* c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- \* See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)  
Paper No(s)/Mail Date \_\_\_\_\_.
- 4) ☐ Interview Summary (PTO-413)  
Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_.

### **DETAILED ACTION**

This is a response to the Applicants' filing on July 22<sup>nd</sup>, 2003. In virtue of this filing, claims 1-20 are currently presented in the instant application.

#### ***Priority***

1. Receipt is acknowledged of papers submitted under 35 U.S.C. 119(a)-(d), which papers have been placed of record in the file.

#### ***Inventorship***

2. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

#### ***Claim Objections/ Minor Informalities***

3. Claims 3 and 8 are objected to because of the following informalities:

Claim 3, line 1, "the" and "of" should be deleted;

Claim 8, line 1, "the" and "of" should be deleted; and

Claim 8, line 3, "the" and "of" should be deleted.

Appropriate correction is required.

#### ***Claim Rejections - 35 USC § 112***

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

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The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-8 and 17-20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

With respect to claim 1, the recitation “after applying a second voltage to the first electrodes ... accommodating an address erasure” in lines 8-12 renders the claim indefinite since it is not understood how part of the first voltage that is applied to the first electrodes is removed, and how the third and fourth voltages are applied before applying the first voltage. Clarification is required.

Claims 2-8 are also rejected under 35 U.S.C. 112, 2<sup>nd</sup> paragraph, since they are dependent on claim 1.

With respect to claim 17, the recitation “a second driver for applying a third voltage to the second electrodes... removing the first voltage from the first electrodes” in lines 9-14 renders the claim indefinite since it is not understood how the third and fourth voltages are applied before applying the first voltage. Clarification is required.

With respect to claim 18, the recitation “applying third and fourth voltages ... and the second electrodes” in lines 8-10 renders the claim indefinite since it is not understood how the third and fourth voltages are applied before applying the first voltage. Clarification is required.

With respect to claim 19, the recitation “applying third and fourth voltages ... and the second electrodes” in lines 5-7 renders the claim indefinite since it is not understood how the third and fourth voltages are applied before applying the first voltage. Clarification is required.

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Claim 20 is also rejected under 35 U.S.C. 112, 2<sup>nd</sup> paragraph since it is dependent on claim 19.

***Claim Rejections - 35 USC § 102***

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

7. Claims 9-10, 12, 15, and 17 are rejected under 35 U.S.C. 102(e) as being anticipated by Shino et al. (U.S. Patent No. 6,320,326).

With respect to claim 9, Shino et al. discloses, in Figs. 22-23, an apparatus for driving a plasma display panel, which includes a plurality of first [SCN1,..., SCNM] and second electrodes [SUS1, ..., SUSM] arranged in pairs, a plurality of data electrodes [D1, ..., DN] formed normal to the first and second electrodes (see Fig. 22), and a plurality of sub-fields for one TV field to display a multi-gradation; the apparatus comprises (1) a first driver [2] for applying a voltage for sustain discharge to the first electrodes by periods (see Fig. 23), and applying a first voltage to the first electrodes of cells selected for erasure of the sustain discharge or removing the voltage for sustain discharge to erase the sustain discharge (see col. 2, lines 51-55 and col. 5, lines 34-37), (2) a second driver [3] for applying the voltage for sustain discharge to the second electrodes, and applying a second voltage to the second electrodes of cells selected

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for erasure of the sustain discharge (see col. 5, lines 10-37), and (3) a third driver 4] for applying a third voltage to the data electrodes of cells selected for erasure of the sustain discharge (see col. 4, line 57 – col. 5, line 4).

With respect to claim 10, Fig. 22 of Shino et al. shows the plural first and second electrodes arranged in pairs are divided into  $j$  groups, each including  $i$  pairs of the first and second electrodes [SCN1, ..., SCNM; SUS1, ..., SUSM]; the plasma display panel further includes  $j$  first common lines [SCN1, SCNM] and  $i$  second common lines [SUS1, ..., SUSM] (see Fig. 22), wherein (i) the  $j$  first common lines are coupled independently to the  $j$  groups (to the scan drive circuit; see Fig. 22), (ii) the first electrodes of the one group are coupled in common to the first common line, and (iii) the  $i$  second electrodes of the same group are coupled independently to the  $i$  second common lines (see Fig. 22).

With respect to claim 12, Figs. 22-23 of Shino et al. show that the second driver [3] applies the second voltage sequentially to the second common lines [SUS1, ..., SUSM] between successive sustain discharge voltage pulses applied to the second common lines.

With respect to claim 15, Fig. 23 of Shino et al. shows that the first voltage is a ground voltage, the second voltage is a scan pulse voltage having a negative (-) value, and the third voltage is a data pulse voltage having a positive (+) value.

With respect to claim 17, as best understood, Shino et al. discloses, in Figs. 22-23, a plasma display panel comprising (1) inherent first and second substrates, (2) a plurality of first [SCN1, ..., SCNM] and second electrodes [SUS1, ..., SUSM] arranged in pairs, (3) a plurality of data electrodes [D1, ..., DN] arranged alternately with the first and second electrodes (see Fig. 22), (4) a first driver [2] for applying a first voltage to the first electrodes by periods (see Fig. 23)

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to cause a sustain discharge, and applying a second voltage to the first electrodes of cells selected for erasure of the sustain discharge or removing the voltage for sustain discharge to erase the sustain discharge (see col. 2, lines 51-55 and col. 5, lines 34-37), (5) a second driver [3] for applying a third voltage to the second electrodes of cells selected for erasure of the sustain discharge (as best understood, this sustain discharge existed or accumulated before applying the first voltage), after applying the second voltage to the first electrodes (see col. 5, lines 10-37), and (6) a third driver [4] for applying a fourth voltage to the data electrodes of cells selected for erasure of the sustain discharge (see col. 4, line 57 – col. 5, line 4) (as best understood, this sustain discharge existed or accumulated before applying the first voltage), after applying the second voltage to the first electrodes or removing the first voltage from the first electrodes.

***Remarks***

8. Claims 1-8 and 18-20 are neither provided with rejection(s) over art nor with indicated allowable subject matter since they are defective.

***Allowable Subject Matter***

9. Claims 11, 13-14, and 16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

10. The following is a statement of reasons for the indication of allowable subject matter:

Prior art fails to disclose or fairly suggest:

- An apparatus for driving a plasma display panel wherein the second and third voltages are applied to the second electrodes and the data electrodes, respectively, in

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a simultaneous manner, in combination with the remaining claimed limitations as called for in claim 11;

- An apparatus for driving a plasma display panel wherein the first driver applies a reset pulse voltage sequentially to the first common lines and the first voltage sequentially to the first common lines, in combination with the remaining claimed limitations as called for in claim 13;
- An apparatus for driving a plasma display panel wherein a bias pulse voltage is applied to the second common lines while the third voltage is applied, in combination with the remaining claimed limitations as called for in claim 14; and
- An apparatus for driving a plasma display panel wherein the reset pulse voltage is applied to the second electrodes only once for one TV field, and the sustain discharge does not occur again until the end of an n-th TV field in a cell with the sustain discharge erased in the n-th TV sub-field, in combination with the remaining claimed limitations as called for in claim 16.

***Citation of relevant prior art***

11. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Prior art Rutherford (U.S. Patent No. 6,492,776) discloses a method for driving a plasma display panel.

Prior art Hirakawa et al. (U.S. Patent No. 6,020,687) discloses a method for driving a plasma display panel.



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***Inquiry***

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thuy V. Tran whose telephone number is (571) 272-1828. The examiner can normally be reached on M-F (8:00 AM -5:00 PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on (571) 272-1834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Thuy V. Tran  
Examiner  
Art Unit 2821

07/24/04

A handwritten signature in black ink, appearing to read 'Thuy V. Tran', is written over the printed name and title.